Name _____ Date _____

1. Solve each system of equations using an algebraic method

a. $\begin{cases} 2x + 3y = 1 \\ x = -1 - y \end{cases}$

b. $\begin{cases} -2x + 7y = 5 \\ 4x - 2y = 14 \end{cases}$

2. Given the equation, $3x + 9y = -8$, write a second linear equation to create a system that

a. Has exactly one solution. Explain your reasoning.

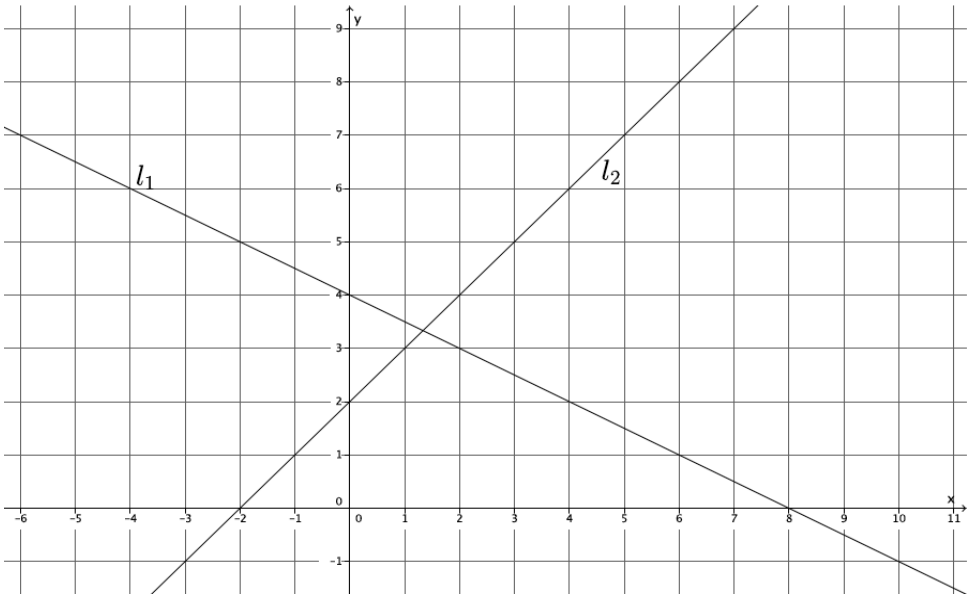
b. Has no solution. Explain your reasoning.

c. Has infinitely many solutions. Explain your reasoning.

3. Graph a system of equations where the solution is the point (-2,-3)

4. Students sold 275 tickets for a fundraiser at school. Some tickets are for children and cost $3, while the rest are adult tickets that cost $5. If the total value of all tickets sold was $1,025, how many of each type of ticket was sold?

5. Line l_1 and line l_2 are shown on the graph below. Use the graph to answer parts (a)–(f).



a. Write a system of linear equations representing lines l_1 and l_2.

b. Use the graph to estimate the solution to the system.

c. Solve the system of linear equations algebraically.

d. Show that your solution from part (e) satisfies both equations.

6. Joe solved this linear system correctly.

$$\begin{cases} 2x + 3y = 1 \\ x = -1 - y \end{cases}$$

These are the last two steps of his work:

$$6x - 6x + 6 = 6$$

$$6 = 6$$

Which statement(s) about this linear system must be true?

- A. x must equal 6
- B. y must equal 6
- C. There is no solution to this system
- D. There are infinitely many solutions to this system

7. a. Determine the equation of the line connecting the points $(0, -1)$ and $(2, 3)$.

a. Will the line described by the equation in part (a) intersect the line passing through the points $(-2, 4)$ and $(-3, 3)$? Explain why or why not.